Inside Wallops

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NASA Wallops Flight Facility to Conduct Sounding Rocket Campaign From Kwajalein Atoll

NASA Wallops Flight Facility will conduct a sounding rocket campaign in the South Pacific during August and September to better understand the Earth's ionosphere in the equatorial region. The EQUatorial Ionospheric Study (EQUIS II) project is designed to study disturbances in the ionosphere created by interactions between the Sun and the Earth's magnetic field.

NASA Goddard Space Flight Center's Wallops Flight Facility will launch 14 suborbital sounding rockets from a launch complex located on the island of Roi-Namur, Kwajalein Atoll, Republic of the Marshall Islands.

EQUIS II is similar to studies conducted from Roi-Namur during the EQUIS project in 1990.

"NASA and a team of scientists from several universities will launch the rockets to make measurements of electrical and turbulent layers that occur in the ionosphere," said Miguel Larsen, campaign scientist from Clemson University, S.C. "People tend to think that space is a quiet place with relatively little activity. Over the years, we have come to realize that this is not true."

Four separate scientific missions will investigate nighttime plasma structures, electrodynamics, and mesospheric scattering processes. Six rockets will carry experiments containing Trimethyl Aluminum (TMA), a tracer of atmospheric motions, that when released will form milky, white clouds in the nighttime sky. Two rockets will carry instrumentation as well as TMA and six rockets will carry only scientific instruments.

The TMA will be released over the Pacific Ocean at altitudes from 50 miles (80 kilometers) to 125 miles (200 kilometers) and will produce light that can be tracked visually and with special camera equipment located at optical sites on the islands of Roi-Namur, Likiep, Rongelap, and Bikini.

The clouds form within seconds after the TMA release and are visible for 10 to 30 minutes. The tracer, which breaks down into harmless components of aluminum oxide, carbon dioxide and water vapor, will show the location of shears and turbulence responsible for electrical disturbances in the upper atmosphere.

"Winds in the ionosphere create disturbances, just as winds on Earth impact our weather. Space weather in turn can affect communication and electrical systems such as Global Positioning Systems (GPS)," said Dr. David Hysell, Principal Investigator, from Cornell University, Ithaca, N.Y. "Communication and navigation systems, particularly those that involve ground to satellite links either experience errors or they fail altogether when this phenomenon called Spread-F occurs."

The time and day of launch depends on two major factors: clear nighttime skies are required at two of the four special camera sites and a layer of ionized particles must form in the upper layers of the ionosphere and begin to descend.

The launches will include eight Terrier-Improved Orions, two Terrier-Malemutes, two Nike-Black Brants and two Black Brant rockets.

Dr. David Hysell, Cornell University, is the principal investigator for experiments that will investigate the electrodynamics of the nighttime equatorial ionosphere and the bearing this has on the thin radar scattering layers that form within the upper atmosphere.

Dr. Lynette Gelinas, Cornell University, will use TMA releases to characterize the neutral winds associated with the ionospheric gravity wave disturbances using ground-based imagers and wind profile measurements.

Dr. Gerald Lemacher, Clemson University, will use instrumented payloads to measure neutral density, temperature fluctuations, electron, ion and particle environment parameters in order to understand the unusually strong radar scattering often observed in the equatorial mesosphere.

Dr. Robert Pfaff, NASA Goddard Space Flight Center, Greenbelt, Md., will conduct an investigation of plasma irregularity structure in the nighttime equatorial ionosphere and the bearing this has on strong radio wave scattering layers that form in this region.

The EQUIS II project is being conducted under the Sounding Rocket Program, which is managed at Wallops for NASA's Office of Science. Approximately 125 people from NASA Wallops Flight Facility and the scientific community will be involved in the campaign.

Further information and updates on the EQUIS II project, including a schedule of the rocket launches, is available at:
http://www.wff.nasa.gov/~code810/

Wallops Shorts…….
In the News

Space News
"Saving the NASA Rocket Program"

The Daily Times
"Apprenticeships"

Eastern Shore News
"Planners Ponder Future of Route 175"

Eastern Shore News
"High School Students Experience NASA"

On the Road
Wallops employees led workshops and activities and made presentations at the NASA sponsored Summer Math and Recent Technologies (SMART) Camp. The SMART Camp is being held at the University of Maryland, Eastern Shore, July 19-30.

On July 20, Ron Walsh, NASA Range and Mission Management Office, attended the Celebrate the Voyage, 35th Anniversary Celebration of Apollo 11 at the National Air and Space Museum Washington, D.C.

Featured speakers included Apollo 11 crew and Administrator Sean O'Keefe.

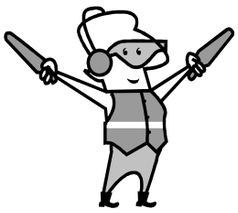
Wallops Blood Drive

Rebecca Hudson Photo

Eastern Shore Blood Bank technician, Sharon Mitchell, prepares Harold Cherrix, Northrop-Grumman, to donate blood. Wallops employees donated 76 pints of blood during the drive held July 20.

Airfield Boundaries

The Wallops airfield has specific boundaries that should not be crossed by anyone without prior permission from the Wallops Tower. These are clearly marked and include the aprons of Building D-1 and Building N-159 and all taxi-ways.



Personnel in the airfield tower have observed individuals within airport restricted zones and approaching parked aircraft without radio contact or authorization from the tower. Be advised that Security is called when this occurs.

Wallops personnel escorting visitors/students who may not be familiar with the hazards associated with an airfield should not leave them unescorted in any area adjacent to the airfield.

Maps showing the airfield and the restricted zones are available through the tower or airport management.

For further information contact the airport manager, Ed Sudendorf, at x1240 or the Airport Tower at x1688.

NASA Retiree Deaths

Bennie T. Wilson died July 20 at his home in Tasley, Va. Wilson retired from NASA Wallops Flight Facility, Plant Operations and Maintenance. He is survived by a wife, a daughter and a granddaughter.

Maud M. Gillespie died July 21. Gillespie retired from NASA Wallops Flight Facility, Fiscal Office, in 1981. She is survived by three daughters, three sons, 22 grandchildren, 27 great-grandchildren and 16 great-great-grandchildren.

Apartment For Rent

Chincoteague apartment for rent. Spacious two bedroom. Close to town. $500/mo + deposit. Available Aug/Sept. Contact Jerry Doyon, (757) 824-0530.

CNE Open House Events

The Center Network Environment (CNE) Project will be hosting two Open House events in the Building E-2, Conference Room from 10 a.m. to 2 p.m.

"Meet the CNE Staff" - August 3
*Meet the CNE support staff

*Learn about upcoming CNE initiatives

*Pick-up informative brochures about CNE services and support

Find out how the CNE can support the needs of your organization.

"VPN Registration"- August 4
*Bring your completed VPN registration forms for processing

*Get a VPN UserID and password

*Talk with VPN support personnel

Tailgate Sale

Anyone interested in setting up at the WEMA Tailgate Sale, August 4, should e-mail Terry Ewell Terry.A.Ewell@nasa.gov with a list of items for sale.

Bring your vegetables to sell—corn, cucumbers, peppers, squash, tomatoes.

Now's the time:

Clean out your attic. Clean out your closets. Get rid of the stuff piled up in your garage.

Wednesday, August 4, 11:30 a.m. at the Flag Court, across from the cafeteria.

Education Outreach Opportunity

On Saturday, August 28, a Community Day Event will be held at the Eastern Shore Community College, Melfa, Va.

Presenters are needed to discuss NASA, space exploration and aerospace technology.

The event is to target girls interested in becoming Girl Scouts and also to educate those who have already become scouts and wish to fulfill requirements for badges in space related topics, aerospace technology and others.

For more information or to volunteer, contact Ed Parrott at x1681 or by email: eparrott@pop100.gsfc.nasa.gov

American Red Cross Blood Drive

When – Tuesday, August 10, 2004

Where - Building F-3 (Rocket Club)

Time - 9 a.m. to 3 p.m.

We are once again asking the Wallops Community to roll up their sleeves and Give the Gift of Life.

To schedule on appointment, call the Health Unit at x1766.

The need for blood donations continues to be very great. Our Red Cross representatives are part of the Mid-Atlantic Regional Blood Services, and are based in Norfolk, Va.

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees. Recent and past issues of *Inside Wallops* also may be found on the NASA Wallops Flight Facility homepage: www.wff.nasa.gov

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